

Example Completion of Schedule B-4

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Example Completion of Schedule B-4

The following two examples are provided as demonstrations of two approaches to completing the required bid schedules in the request for proposal (RFP). The bid schedules covered in these examples are Schedule B-4, *Utility Service Payment by the Government*, Schedule L-1, *Calculation of the Fixed Monthly Charge*, Schedule L-2, *Renewals and Replacements Schedule*, and Schedule L-3, *Additions to the Fixed Monthly Charge*. **These examples are for illustrative purposes only. Any resemblance to conditions or costs at any Department of Defense Installations is strictly coincidental. Similarly, any resemblance of the hypothetical bidders in this example to existing entities is also strictly coincidental. Offerors are advised not to place any importance on values used or assumptions made in these examples.**

J40.1 Background for Examples

The Government is considering privatization of a wastewater collection system (CLIN 0004 from the RFP) at one of its installations (*Fort Soldier*). It plans to complete the privatization in year 2003. The Government has issued an RFP that, among other things, requires Offerors to complete Schedule B-4 presented in Section B of the RFP and Schedules L-1, L-2, and L-3 presented in section L of the RFP. The Government's inventory of the wastewater system is shown in **Table J40-1**. The Government identified two system deficiencies (see **Table J40-2**).

TABLE J40-1
Example Wastewater System Inventory
Utility Privatization, Fort Soldier

Component	Size	Quantity	Unit	Approximate Date of Installation
Concrete Pipe	12-in.	2,000	Lf	1945
	24-in.	1,000	Lf	1945
PVC Pipe	24-in.	4,000	Lf	1985
	12-in.	8,000	Lf	1985
	4-in.	3,000	Lf	1985
Manhole		10	Ea	1945
		30	Ea	1985
Lift Station #1		1	Ea	1970
Lift Station #2		1	Ea	1995

TABLE J40-2

Example Government Recognized System Deficiencies
Utility Privatization, Fort Soldier

System Component	Description of Deficiency
Collection System	The system has excessive infiltration and inflow (I&I)
Lift Station #2	Lift Station #2 is inappropriately sized and causes overflows of sewage into the street

J40.2 Example 1

J40.2.1 Background for Example 1

An interested party (*Party X*) reviews the RFP and decides to submit a proposal for CLIN 0004. In preparing its proposal, *Party X* participates in the industry day and site visits, and reviews information in the bidders' library. *Party X* evaluates the system using the information and data collected and determines the following:

- Based on the requirements in the RFP, the system consists of approximately 18,000 linear feet of collection piping, 40 manholes, and two lift stations.
- Based on the requirements in the RFP, an evaluation of the system, and experience with wastewater systems, *Party X* determines the monthly system operating cost will be \$3,500. This amount includes all costs for operations, maintenance, repair, and administration and general costs.
- The fair market value of the utility system is \$500,000. Additionally, the system has excess capacity that is potentially usable for customers other than the Government. Therefore, *Party X* determines the value of this excess capacity that they can propose to the Government is equivalent to 15 percent of the system FMV.
- *Party X* determines there are a several deficiencies in the system.
 - The first deficiency was identified based on the inventory and system condition. *Party X* determined that they would need to replace 1,000 linear feet of the 1940s era collection system because it is beyond its useful life, requires excessive maintenance, and has unacceptable infiltration and inflow (I&I). The other 1940s era components were determined to be old, but were functioning and were not in need of immediate replacement. The cost for replacing the 1,000 linear feet was determined by *Party X* to be \$35,000 and was incorporated into the first year of privatization as a planned renewal and replacement (R&R) cost. Even though this project may be thought of as a deficiency, it is actually the result of the system reaching the end of its useful life; therefore, it is included in the estimate as a R&R project and included in the first year of Schedule L-2.
 - The second deficiency was identified based on the deficiencies identified by the Government in the J attachment and information gathered during the site visit. Cross

- connections between the Installation's wastewater system and storm water system were determined to be contributing to the I&I problem. The cost to remedy the cross connections was determined to be \$125,000 and included as a capital improvement project in Schedule L-3. *Party X* also determines a program to periodically televise and test the system for I&I needs to be implemented. *Party X* determines the annual cost for this program will be \$2,000 per year, which is included in the \$3,500 monthly operating cost.
- The third deficiency was identified based on a deficiency identified by the Government in the J attachment. The deficiency, “wastewater lift station #2 is inappropriately sized and causes overflows of sewage into the street,” was reviewed and *Party X* determined that the lift station was built in 1990's, is in good condition, but was inappropriately sized during design. The cost for replacing this lift station was determined by *Party X* to be \$50,000 and was incorporated into the first year of privatization as a planned R&R cost. Even though this project may be a deficiency, it is accounted for under R&R because it is a replacement and impacts the overall schedule of replacements.
 - *Party X* determines that the cost to remedy the deficiency included in Schedule L-3, *Additions to the Fixed Monthly Charge*, can be amortized over 15 years at a 6.0 percent discount rate (excluding inflation).¹
 - In addition to implementing the projects identified above, there will be a need for continuing R&R as other plant and equipment wears out with time. *Party X* prepares a 50-year schedule for R&R in accordance with Section L.7.5 of the RFP. The schedule includes no costs in some years and substantial costs in other years. Other than the projects identified above and implementing normal R&R, no other upgrades or improvements to the system are anticipated. *Party X* determines that the a 6.0 percent discount rate will be used to amortize the investments in R&R over the 50-year term of the contract.
 - *Party X* also determines that a one-time transition effort and initial map upgrades will be necessary and will cost \$50,000. These costs are not part of the monthly operations or R&R cost and are therefore included as a one-time capital improvement project, which is included in the proposal in Schedule L-3, *Addition to the Fixed Monthly Charge*.²

J40.2.2 Example 1 Schedule B-4

Party X prepares Schedule B-4 based on the data presented in Schedule L-1, *Calculation of the Fixed Monthly Charge*, and Schedule L-2, *Renewals and Replacements Schedule*. Projects shown in Schedule L-3, *Additions to the Fixed Monthly Charge*, are not included in the totals shown in Schedule B-4, but are added to the monthly charge in accordance with the amortization schedule for each project listed. The completed example Schedule B-4 for *Party X* is presented in **Exhibit J40-1**.

¹ The Government uses the discount rates published in Appendix C of OMB Circular A-94.

² Additions to the Fixed Monthly Charge are for the period of time defined by the offeror in Schedule L-3.

EXHIBIT J40-1

Example 1 Schedule B-4

Utility Service Payment by the Government

Fort Soldier		
0004 ^a	Wastewater System	
Sub-CLINs	SUPPLIES/SERVICES	MONTHLY SERVICE CREDIT/CHARGE
AA	Fixed Monthly Charge (see B.5.2.1, <i>Service Charges</i>) The Contractor shall provide utility service in accordance with Section C, Descriptions, Specifications, and Work Statement. ^b	<u>\$ 4,848.88</u>
AB	Monthly Credit as Payment for Purchase (see B.5.2.2, <i>Monthly Credits as Payment for Purchase Price</i>). \$ <u>4,219.28</u> Monthly Credit <u>180</u> # of Months	<u>\$ (4,219.28)</u>
^a CLIN number to be filled in by the Offeror. CLIN numbers are shown in Schedule A paragraph B.3, <i>Systems to be Privatized</i> . ^b The offeror should enter the Fixed Monthly Charge, as computed in Schedule L-1. Additions to the Fixed Monthly Charge will be handled in accordance with Section H.9, Accounting for Capital Upgrades/Purchase Price, and Schedule L-3, but should not be included in the price offered for Sub-CLIN AA.		

J40.2.3 Example 1 Supporting Calculations

The following sections describe the calculations used by *Party X* to determine the values for Sub-CLIN AA and Sub-CLIN AB in Schedule B-4. Although these calculations demonstrate one logical way to complete the schedule, other logical approaches could be taken.

J40.2.3.1 Example 1 Sub-CLIN AA Supporting Calculations

The Fixed Monthly Charge (Sub-CLIN AA) is comprised of two components – operations and maintenance (O&M) and R&R. As indicated above, *Party X* determined the fixed monthly charge for O&M to be \$3,500. The monthly charge for R&R is developed using the example Schedule L-2 developed by *Party X* shown in **Table J40-3**.

TABLE J40-3

Example 1 Schedule L-2, Renewals and Replacements Schedule
Utility Privatization, Fort Soldier

Year ^a	Dollar Amount (Constant \$) ^b	Description of Renewal or Replacement	Present Value (Constant \$) ^c	Residual Value (Constant \$) ^d
2003	\$40,000.00	Replace Lift Station #2 structure	\$40,000.00	\$0.00
2003	\$10,000.00	Replace Lift Station #2 controls, electrical, and mechanical equip.	\$10,000.00	\$0.00

TABLE J40-3

Example 1 Schedule L-2, Renewals and Replacements Schedule
Utility Privatization, Fort Soldier

Year ^a	Dollar Amount (Constant \$) ^b	Description of Renewal or Replacement	Present Value (Constant \$) ^c	Residual Value (Constant \$) ^d
2003	\$35,000.00	Replace 1,000 lf of concrete pipe (1945 era) with PVC pipe	\$35,000.00	\$0.00
2003	\$20,000.00	Replace 10 manholes (1945 era)	\$20,000.00	\$0.00
2003	\$10,000.00	Lift station #1 controls, electrical and mechanical equip.	\$10,000.00	\$0.00
2008	\$70,000.00	Replace 2,000 lf of concrete pipe (1945 era) with PVC pipe	\$52,308.07	\$7,000.00
2020	\$40,000.00	Replace Lift Station #1 structure	\$14,854.58	\$13,600.00
2020	\$10,000.00	Replace Lift Station #1 controls, electrical, and mechanical equip.	\$3,713.64	\$0.00
2023	\$10,000.00	Lift Station #2 controls, electrical and mechanical equip.	\$3,118.05	\$0.00
2033	\$150,000.00	Replace 5,000 lf of PVC pipe (1985 era) with PVC pipe	\$26,116.52	\$90,000.00
2033	\$20,000.00	Replace 10 manholes (1985 era)	\$3,482.20	\$12,000.00
2034	\$150,000.00	Replace 5,000 lf of PVC pipe (1985 era) with PVC pipe	\$24,638.23	\$93,000.00
2034	\$20,000.00	Replace 10 manholes (1985 era)	\$3,285.10	\$12,400.00
2035	\$150,000.00	Replace 5,000 lf of PVC pipe (1985 era) with PVC pipe	\$23,243.61	\$96,000.00
2035	\$20,000.00	Replace 10 manholes (1985 era)	\$3,099.15	\$12,800.00
2040	\$10,000.00	Lift Station #1 controls, electrical and mechanical equip.	\$1,157.93	\$3,500.00
2043	\$10,000.00	Lift station #2 controls, electrical and mechanical equip.	\$972.22	\$5,000.00
Totals	\$775,000.00		\$274,989.30	\$345,300.00
Present Value of Cumulative Residual Value ^c				\$18,745.77

Table Notes:

^a Only the years with planned R&R are included in this example Schedule L-2.

^b Year 2003 dollars were used in this example. In accordance with B.5.2.1, the 2003 dollars were based on the expected price levels during 2003 and 2004.

^c The Present Value is calculated using the following formula: $PV = R\&R \text{ dollar value} \times [1 / (1 + i)^n]$

^d The Residual Value is calculated based on the dollar amount of the R&R project, the year in which the project is planned, and the expected remaining life of the component at the end of the contract term. The Residual value reflects the value of the investment, in constant year dollars, at the end of the contract term.

As shown in **Table J40-3**, *Party X* proposes to spend \$775,000.00 (in 2003 dollars) on planned R&R of the wastewater system over the 50-year contract term. The cumulative present value of *Party X's* proposed series of R&R investments, using a 6.0 percent discount rate, is \$274,989.30. The cumulative residual value associated with *Party X's* investments in the system at the end of the contract term is \$345,300.00 in constant year dollars. The present value of the cumulative residual value is \$18,745.77. Therefore, the present value of *Party X's* total investment in R&R during the contract term is \$256,243.53 (\$274,989.30 - \$18,745.77).³

Party X will amortize their investment using a 6.0 percent discount rate (excluding inflation). Therefore, the R&R component of the fixed monthly charge is calculated based on a \$256,243.53 investment, amortized over 600 months at a constant interest rate of 0.50 percent per month:

Calculation	Result
Present Value of Proposed R&R Cost (from L-2) =>	\$274,989.30
Present Value of Cumulative Residual Value due to R&R Investments =>	\$18,745.77
(PV) Present Value of Total Investment in R&R = 274,989.3 - 18,745.77 =>	\$256,243.53
(n) # Months to Recover R&R Cost =>	600
Annual Interest Rate =>	6.00%
(i) Monthly Interest Rate = 0.06 / 12 =>	0.50%
(A) Monthly R&R Charge ^a =>	\$1,348.88

Table Notes:

^a Monthly R&R Charge calculated based on uniform series of payments. $A = PV \times [i \times (1 + i)^n] / [(1 + i)^n - 1]$

The Total Fixed Monthly Charge proposed by *Party X* is calculated as demonstrated in the example Schedule L-1 shown in **Table J40-4**.

TABLE J40-4

Example 1 Schedule L-1, Calculation of the Fixed Monthly Charge
Utility Privatization, Fort Soldier

Component	Monthly Charge
1. Operations and Maintenance (O&M)	\$3,500.00
2. Renewals and Replacements	\$1,348.88
Total Fixed Monthly Charge (to be entered in sub-CLIN AB)	\$4,848.88

Additions to the Fixed Monthly Charge are documented in Schedule L-3. Additions include capital projects to remedy deficiencies and the recoverable portion of the purchase price. *Party X* identified three deficiencies in the wastewater system. Two of the deficiencies,

³ The present value of the cumulative residual value is subtracted from the present value of R&R investments to account for the value in the system at the end of the contract term.

replacing 1,000 lf of 1945 era collection piping and replacing lift station #2, were included in the first year of planned R&R. A portion of the other deficiency was accounted for in the O&M component of the fixed monthly charge. Remedying the cross-connections in the system and system transition and initial map upgrade costs were not included as R&R and are included in the capital improvement projects in Schedule L-3.

- *Party X* proposes a \$125,000.00 capital improvement project to remedy the cross connections in the system. This project is scheduled to be completed in the 12th month of privatization and amortized over the next 60 months (months 13 through 73) at a 6.0 percent discount rate. Therefore, the addition to the fixed monthly charge is based on a \$125,000.00 investment, amortized over 60 months at a constant interest rate of 0.50 percent per month:

Calculation	Result
(PV) Project Cost =>	\$ 125,000.00
(n) # Months to Amortize Project Cost =>	60
Annual Interest Rate =>	6.00%
(i) Monthly Interest Rate = 0.06 / 12 =>	0.50%
(A) Monthly Charge ^a =>	\$2,416.60

Table Notes:

^a Monthly Charge calculated based on uniform series of payments. $A = PV \times [i \times (1 + i)^n] / [(1 + i)^n - 1]$

- *Party X* includes a \$50,000 one-time transition and initial map upgrades project in their proposal. This project is scheduled to be completed in the 12th month of privatization and amortized over 48 months (months 13 through 61) at a 6.0 percent discount rate. Therefore, the addition to the fixed monthly charge is based on a \$50,000.00 investment, amortized over 48 months at a constant interest rate of 0.50 percent per month:

Calculation	Result
(PV) Project Cost =>	\$50,000.00
(n) # Months to Amortize Project Cost =>	48
Annual Interest Rate =>	6.00%
(i) Monthly Interest Rate = 0.06 / 12 =>	0.50%
(A) Monthly Charge ^a =>	\$1,174.25

Table Notes:

^a Monthly Charge calculated based on uniform series of payments. $A = PV \times [i \times (1 + i)^n] / [(1 + i)^n - 1]$

- *Party X* proposes to purchase the wastewater system for \$500,000. *Party X* determined that the excess capacity in the system was worth 15 percent of the system's value; therefore, *Party X* proposes to recover 85 percent (\$425,000) of its purchase price. The recoverable portion of the purchase price will be amortized over 15 years (180 months) at a 6.0 percent discount rate. Therefore, the Recoverable Portion of the Purchase Price is

calculated based on \$425,000 amortized over 180 months at a constant interest rate of 0.50 percent per month:

Calculation	Result
Proposed Purchase Price =>	\$500,000.00
Non-recoverable Portion of Purchase Price	15%
(PV) Recoverable Portion of Purchase Price = 500000 x 0.85 =>	\$425,000.00
(n) # Months to Amortize Purchase Price =>	180
Annual Interest Rate =>	6.00%
(i) Monthly Interest Rate = 0.06 / 12 =>	0.50%
(A) Monthly Recoverable Portion of Purchase Price ^a =>	\$3,586.39

Table Notes:

^a Monthly Recoverable Portion of the Purchase Price is calculated based on uniform series of payments.

$$A = PV \times [i \times (1 + i)^n] / [(1 + i)^n - 1]$$

The example Schedule L-3 developed for Additions to the Fixed Monthly Charge is shown in **Table J40-5**.

TABLE J40-5

Example 1 Schedule L-3, Additions to the Fixed Monthly Charge

Utility Privatization, Fort Soldier

Component Name	Component Cost (Constant \$) ^a	Expected Month of Completion	Number of Months to Amortize Component	Monthly Charge (Constant \$) ^a
1. Initial Capital Upgrades				
Remedy Cross Connections	\$125,000	12	60	\$2,416.60
Transition and Initial Map Upgrades	\$50,000.00	12	48	\$1,174.25
2. Recoverable Portion of the Purchase Price	\$425,000.00		180	\$3,586.39

Table Notes:

^a Year 2003 dollars were used in this example

J40.2.3.2 Example 1 Sub-CLIN AB Calculations

Party X proposes to purchase the wastewater system for \$500,000. This amount will be amortized over the first 15 years (180 months) of the 50-year term of the contract at a 6.0 percent discount rate. Therefore, the monthly credit for the purchase price is calculated based on \$500,000 amortized over 180 months at a constant interest rate of 0.50 percent per month:

Calculation	Results
(PV) Proposed Purchase Price =>	\$500,000.00
(n) # Months to Amortize Purchase Price =>	180
Annual Interest Rate =>	6.00%
(i) Monthly Interest Rate = 0.06 / 12 =>	0.50%
(A) Sub-CLIN AB, Monthly Credit as Payment for Purchase Price ^a =>	\$4,219.28

Table Notes:

^a Monthly Credit as Payment for Purchase Price is calculated based on uniform series of payments.

$$A = PV \times [i \times (1 + i)^n] / [(1 + i)^n - 1]$$

J40.3 Example 2

J40.3.1 Background for Example 2

An interested party (*Party Y*) reviews the RFP and decides to submit a proposal for CLIN 0004. In preparing its proposal, *Party Y* participates in the industry day and site visits, and reviews information in the bidders' library. *Party Y* conducts a system evaluation using the information and data collected and determines the following:

- Based on the requirements in the RFP, the system consists of approximately 18,000 linear feet of collection piping, 40 manholes, and two lift stations.
- Based on the requirements in the RFP, an evaluation of the system, and experience with wastewater systems, *Party Y* determines the monthly system operating cost will be \$1,500. This cost is based on *Party Y*'s decision to completely replace the system within the first three years of the privatization contract. The monthly system operating cost includes all costs for operations, maintenance, repair, and administration and general costs.
- The fair market value of the utility system is \$500,000. *Party Y* does not identify any excess capacity in the system and does not intend to include excess capacity as part of the complete system replacement. The system will only serve Fort Soldier.
- *Party Y* determines there are several deficiencies in the system:
 - The first deficiency was identified based on the inventory and system condition. *Party Y* determined that all of the 1940s era piping and infrastructure had generally failed and was not performing in accordance with system standards.
 - In many areas throughout the installation, the 1980s era system components showed premature signs of failure. The available maintenance documentation was insufficient to determine the exact condition of collection piping and manholes. Additionally, it did not appear that preventative maintenance was being performed regularly on the system. *Party Y* concludes that system-wide I&I contributed to the premature failure of system components.

- The deficiencies identified by the Government in the J attachment – “the system has excessive infiltration and inflow (I&I)” and “wastewater lift station #2 is inappropriately sized and causes overflows of sewage into the street” – are related. The overflows at the lift station, which was determined to be in good operating condition, only occurred during rainfall events when I&I in the system was highest. *Party Y* determines that these deficiencies can be resolved through system replacement.
- *Party Y* determines that the cost to remedy the deficiency included in Schedule L-3, *Additions to the Fixed Monthly Charge*, can be amortized over 15 years at a 6.0 percent discount rate (excluding inflation).⁴
- *Party Y* determines that the most cost effective approach to providing service to the Government is a complete replacement of the wastewater system. This replacement will result in a new system that will require minimal R&R throughout the 50-year term of the contract. *Party Y* prepares a 50-year schedule for R&R, which includes the complete replacement of the system in the first three years of the contract term, in accordance with Section L.7.5 of the RFP. At the end of the 50-year contract, all of the R&R investments will have been capitalized and the system almost completely depreciated. This would result in the next cycle of major system upgrades occurring at the same time the 50-year contract is to be renewed.
- *Party Y* also determines that a one-time transition effort will be required and will cost \$12,500. This cost is not part of the monthly operations or R&R cost and is therefore included as a capital improvement project, which is included in the proposal as an Addition to the Fixed Monthly Charge (Schedule L-3).⁵

J40.3.2 Example 2 Schedule B-4

Party Y prepares Schedule B-4 based on the data presented in Schedule L-1, *Calculation of the Fixed Monthly Charge*, and Schedule L-2, *Renewals and Replacements Schedule*. Projects shown in Schedule L-3, *Additions to the Fixed Monthly Charge*, are not included in the totals shown in Schedule B-4, but are added to the monthly charge in accordance with the amortization schedule for each project listed. The completed example Schedule B-4 for *Party Y* is presented in **Exhibit J40-2**.

⁴ The Government uses the discount rates published in Appendix C of OMB Circular A-94.

⁵ Additions to the Fixed Monthly Charge are for the period of time defined by the offeror in Schedule L-3.

EXHIBIT J40-2

Example 2 Schedule B-4

Utility Service Payment by the Government

Fort Soldier		
0004^a	Wastewater System	
Sub-CLINs	SUPPLIES/SERVICES	MONTHLY SERVICE CREDIT/CHARGE
AA	Fixed Monthly Charge (see B.5.2.1, <i>Service Charges</i>) The Contractor shall provide utility service in accordance with Section C, Descriptions, Specifications, and Work Statement. ^b	<u>\$ 5,040.39</u>
AB	Monthly Credit as Payment for Purchase (see B.5.2.2, <i>Monthly Credits as Payment for Purchase Price</i>). \$ <u>4,219.28</u> Monthly Credit _____ 180 # of Months	<u>\$ (4,219.28)</u>
^a CLIN number to be filled in by the Offeror. CLIN numbers are shown in Schedule A paragraph B.3, <i>Systems to be Privatized</i> . ^b The offeror should enter the Fixed Monthly Charge, as computed in Schedule L-1. Additions to the Fixed Monthly Charge will be handled in accordance with Section H.9, Accounting for Capital Upgrades/Purchase Price, and Schedule L-3, but should not be included in the price offered for Sub-CLIN AA.		

J40.3.3 Example 2 Supporting Calculations

The following sections describe the calculations used by *Party Y* to determine the values for Sub-CLIN AA and Sub-CLIN AB in Schedule B-4. Although these calculations demonstrate one logical way to complete the schedule, other logical approaches could be taken.

J40.3.3.1 Example 2 Sub-CLIN AA Supporting Calculations

The Fixed Monthly Charge (Sub-CLIN AA) is comprised of two components – O&M and R&R. As indicated above, *Party Y* determined the fixed monthly charge for O&M to be \$1,500. The monthly charge for R&R is developed using the example Schedule L-2 developed by *Party Y* shown in **Table J40-6**.

TABLE J40-6

Example 2 Schedule L-2, Renewals and Replacements Schedule
Utility Privatization, Fort Soldier

Year^a	Dollar Amount (Constant \$)^b	Description of Renewal or Replacement	Present Value (Constant \$)^c	Residual Value (Constant \$)^d
2003	\$180,000.00	Replace 6,000 lf of wastewater pipe	\$180,000.00	\$0.00

TABLE J40-6
 Example 2 Schedule L-2, Renewals and Replacements Schedule
Utility Privatization, Fort Soldier

Year ^a	Dollar Amount (Constant \$) ^b	Description of Renewal or Replacement	Present Value (Constant \$) ^c	Residual Value (Constant \$) ^d
		with PVC pipe		
2003	\$36,000.00	Replace 20 manholes	\$36,000.00	\$0.00
2003	\$36,000.00	Replace Lift Station #1 structure	\$36,000.00	\$0.00
2003	\$9,000.00	Replace Lift Station #1 controls, electrical and mechanical equip.	\$9,000.00	\$0.00
2003	\$36,000.00	Replace Lift Station #2 structure	\$36,000.00	\$0.00
2003	\$9,000.00	Replace Lift Station #2 controls, electrical and mechanical equip.	\$9,000.00	\$0.00
2004	\$180,000.00	Replace 6,000 lf of wastewater pipe with PVC pipe	\$169,811.32	\$3,600.00
2004	\$18,000.00	Replace 10 manholes	\$16,981.13	\$360.00
2005	\$180,000.00	Replace 6,000 lf of wastewater pipe with PVC pipe	\$160,199.36	\$7,200.00
2005	\$18,000.00	Replace 10 manholes	\$16,019.94	\$720.00
2028	\$9,000.00	Replace Lift Station #1 controls, electrical and mechanical equip.	\$2,096.99	\$0.00
2028	\$9,000.00	Replace Lift Station #2 controls, electrical and mechanical equip.	\$2,096.99	\$0.00
Totals	\$720,000.00		\$673,205.72	\$11,880.00
Present Value of Cumulative Residual Value ^c				\$644.95

Table Notes:

^a Only the years with planned R&R are included in this example Schedule L-2.

^b Year 2003 dollars were used in this example. In accordance with B.5.2.1, the 2003 dollars were based on the expected price levels during 2003 and 2004.

^c The Present Value is calculated using the following formula: $PV = R\&R \text{ dollar value} \times [1 / (1 + i)^n]$

^d The Residual Value is calculated based on the dollar amount of the R&R project, the year in which the project is planned, and the expected remaining life of the component at the end of the contract term. The Residual value reflects the value of the investment, in constant year dollars, at the end of the contract term.

As shown in **Table J40-6**, *Party Y* proposes to spend \$720,000 on planned R&R of the wastewater system. The cumulative present value of *Party Y's* proposed series of R&R investments, using a 6.0 percent discount rate, is \$673,205.72. The cumulative residual value associated with *Party Y's* investments in the system at the end of the contract term is \$11,880.00 in constant year dollars. The present value of the cumulative residual value is \$644.95. Therefore, the present value of *Party Y's* total investment in R&R during the contract term is \$672,560.78 (\$673,205.72 - \$644.95).

Party Y will amortize their investment using a 6.0 percent discount rate (excluding inflation). Therefore, the R&R component of the fixed monthly charge is calculated based on a \$673,850.67 investment, amortized over 600 months at a constant interest rate of 0.50 percent per month:

Calculation	Result
Present Value of Proposed R&R Cost (from L-2) =>	\$673,205.72
Present Value of Cumulative Residual Value due to R&R Investments =>	\$644.95
(PV) Present Value of Total Investment in R&R = 673,205.72 - 644.95 =>	\$672,560.78
(n) # Months to Recover R&R Cost =>	600
Annual Interest Rate =>	6.00%
(i) Monthly Interest Rate = 0.06 / 12 =>	0.50%
(A) Monthly R&R Charge ^a =>	\$3,540.39

Table Notes:

^a Monthly R&R Charge calculated based on uniform series of payments. $A = PV \times [i \times (1 + i)^n] / [(1 + i)^n - 1]$

The Total Fixed Monthly Charge proposed by *Party Y* is calculated as demonstrated in the example Schedule L-1 shown in **Table J40-7**.

TABLE J40-7

Example 2 Schedule L-1, Calculation of the Fixed Monthly Charge
Utility Privatization, Fort Soldier

Component	Monthly Charge
1. Operations and Maintenance (O&M)	\$1,500.00
2. Renewals and Replacements	\$3,540.39
Total Fixed Monthly Charge (to be entered in sub-CLIN AB)	\$5,040.39

Additions to the Fixed Monthly Charge are documented in Schedule L-3. Additions include capital projects to remedy deficiencies and the recoverable portion of the purchase price.

Party Y identified deficiencies in the wastewater system; however, all of the system deficiencies were resolved through replacement of the system in the first three years of privatization. The cost for these replacements was documented in the R&R shown in Schedule L-2.

- Party Y* includes a \$12,500 one-time transition project in their proposal. This project is scheduled to be completed in the 6th month of privatization. This project is scheduled to be completed in the 12th month of privatization and amortized over 12 months (months 13 through 25) at a 6.0 percent discount rate. Therefore, the addition to the fixed

monthly charge is calculated based on a \$12,500.00 investment, amortized over 12 months at a constant interest rate of 0.50 percent per month:

Calculation	Results
(PV) Project Cost =>	\$12,500.00
(n) # Months to Amortize Project Cost =>	12
Annual Interest Rate =>	6.00%
(i) Monthly Interest Rate = 0.06 / 12 =>	0.50%
(A) Monthly Charge ^a =>	\$1,075.83

Table Notes:

^a Monthly Charge calculated based on uniform series of payments. $A = PV \times [i \times (1 + i)^n] / [(1 + i)^n - 1]$

- *Party Y* proposes to purchase the wastewater system for \$500,000 and recover 100 percent of its purchase price. The recoverable portion of the purchase price will be amortized over 15 years (180 months) at a 6.0 percent discount rate. Therefore, the Recoverable Portion of the Purchase Price is calculated based on \$500,000 amortized over 180 months at a constant interest rate of 0.50 percent per month:

Calculation	Result
Proposed Purchase Price =>	\$500,000.00
Non-recoverable Portion of Purchase Price	0%
(PV) Recoverable Portion of Purchase Price = 500000 x 1 =>	\$500,000.00
(n) # Months to Amortize Purchase Price =>	180
Annual Interest Rate =>	6.00%
(i) Monthly Interest Rate = 0.06 / 12 =>	0.50%
(A) Monthly Recoverable Portion of Purchase Price ^a =>	\$4,219.28

Table Notes:

^a Monthly Recoverable Portion of the Purchase Price is calculated based on uniform series of payments.

$A = PV \times [i \times (1 + i)^n] / [(1 + i)^n - 1]$

The example Schedule L-3 developed for Additions to the Fixed Monthly Charge is shown in **Table J40-8**.

TABLE J40-8

Example 2 Schedule L-3, Additions to the Fixed Monthly Charge
Utility Privatization, Fort Soldier

Component Name	Component Cost (Constant \$) ^a	Expected Month of Completion	Number of Months to Amortize Component	Monthly Charge (Constant \$) ^a
3. Initial Capital Upgrades				
Transition	\$12,500.00	6	12	\$1,075.83
4. Recoverable Portion of the Purchase Price	\$500,000.00		180	\$4,219.28

Table Notes:

^a Year 2003 dollars were used in this example

J40.3.3.2 Example 2 Sub-CLIN AB Calculations

Party Y proposes to purchase the wastewater system for \$500,000. This amount will be amortized over the first 15 years (180 months) of the contract at 6.0 discount rate. Therefore, the monthly credit for the purchase price is calculated based on \$500,000 amortized over 180 months at a constant interest rate of 0.50 percent per month:

Calculation	Results
(<i>PV</i>) Proposed Purchase Price =>	\$500,000.00
(<i>n</i>) # Months to Amortize Purchase Price =>	180
Annual Interest Rate =>	6.00%
(<i>i</i>) Monthly Interest Rate = 0.06 / 12 =>	0.50%
(<i>A</i>) Sub-CLIN AB, Monthly Credit as Payment for Purchase Price ^a =>	\$4,219.28

Table Notes:

^a Monthly Credit as Payment for Purchase Price is calculated based on uniform series of payments.

$$A = PV \times [i \times (1 + i)^n] / [(1 + i)^n - 1]$$